

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NO. 2018-318-E

In the Matter of:)	
)	
Application of Duke Energy Progress,)	REBUTTAL TESTIMONY OF
LLC for Authority to Adjust and Increase)	ROBERT B. HEVERT FOR
Its Electric Rates and Charges)	DUKE ENERGY PROGRESS, LLC

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME, AFFILIATION, AND BUSINESS ADDRESS.

A. My name is Robert B. Hevert. I am a Partner at ScottMadden, Inc. ("ScottMadden"). My business address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts, 01581.

Q. ARE YOU THE SAME ROBERT B. HEVERT WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I submitted Direct Testimony ("Direct Testimony") before the Public Service Commission of South Carolina ("Commission") on behalf Duke Energy Progress, LLC ("Duke Energy Progress" or the "Company").

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my Rebuttal Testimony is to respond to the direct testimonies of Mr. David C. Parcell, who testifies on behalf of the South Carolina Office of Regulatory Staff ("ORS"); ~~Ms. Billie S. LaConte, who testifies on behalf Nucor Steel—South Carolina ("Nucor")~~; and Mr. Steve W. Chriss, who testifies on behalf of Walmart Inc. ("Walmart") as their testimony relates to the Return on Equity ("ROE"). My Rebuttal Testimony also responds to the direct testimony of Mr. Zachary J. Payne, who testifies on behalf of ORS, as his testimony relates to the return on certain accounting deferrals.

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DUKE ENERGY PROGRESS, LLC	DOCKET NO. 2018-318-E

1 **Q. PLEASE SUMMARIZE THE UPDATES YOU HAVE MADE TO THE**
 2 **ANALYSES PRESENTED IN YOUR DIRECT TESTIMONY.**

3 A. I have updated many of the analyses contained in my Direct Testimony with current
 4 data as of February 15, 2019, including the Constant Growth and Multi-Stage DCF
 5 analyses, the Capital Asset Pricing Model ("CAPM"), and the Bond Yield Plus Risk
 6 Premium approach. I also I have updated my proxy group based on recent data to
 7 include Evergy, Inc.²⁸ I refer to this proxy group as my "Updated Proxy Group".

8 **Q. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY**
 9 **ORGANIZED?**

10 A. The remainder of my Rebuttal Testimony is organized as follows:

- 11 • Section III – Responds to ORS Witness Mr. Parcell;
- 12 • ~~Section IV – Responds to Nucor Witness Ms. LaConte;~~
- 13 • Section IV – Responds to Walmart Witness Mr. Chriss;
- 14 • Section VI – Responds to ORS Witness Mr. Payne; and
- 15 • Section VII – Summarizes my updated analytical results and provides my
- 16 conclusion.

²⁸ As enough time has passed since the merger between Great Plains Energy, Inc. and Westar Energy, Inc. to form Evergy, Inc. ("Evergy"), I have included Evergy in my proxy group.

1 that the fact that the market value of Duke Energy's common stock exceeds its book
2 value negates the need to recover flotation costs.

3 **Q. HAS DUKE ENERGY RECENTLY ISSUED COMMON STOCK?**

4 A. Yes, it has. As noted in my Direct Testimony and in the Direct Testimony of
5 Company Witness Mr. Sullivan, on March 6, 2018, Duke Energy issued 21,275,000
6 shares of common equity.¹⁵⁰

7 **IV. RESPONSE TO THE DIRECT TESTIMONY OF MS. LACONTE**

8 ~~**Q. PLEASE SUMMARIZE MS. LACONTE'S TESTIMONY REGARDING**~~
9 ~~**THE COMPANY'S ROE.**~~

10 ~~A. Ms. LaConte asserts the Company's proposed ROE is "overstated" based on her~~
11 ~~review of "industry trends".¹⁵¹ She argues that "the implied risk premium in DEP's~~
12 ~~proposal is overstated, which results in an over-stated ROE."¹⁵² Ms. LaConte does~~
13 ~~not undertake an independent, market-based analysis of the Company's Cost of~~
14 ~~Equity.~~

15 ~~**Q. WHAT IS YOUR RESPONSE TO MS. LACONTE'S ARGUMENT THAT**~~
16 ~~**THE TREND OF AUTHORIZED ROES HAS DECLINED SINCE 2010?**~~

17 ~~A. For the reasons explained in my response to Mr. Parcell, I disagree. Average annual~~
18 ~~data obscures variation in returns and does not address the number of cases or the~~
19 ~~jurisdictions issuing orders within a given year. As Chart 3 above demonstrates, if~~

¹⁵⁰ Direct Testimony of Robert B. Hevert, at 66.

¹⁵¹ Direct Testimony of Billie S. LaConte, at 29-30.

¹⁵² *Ibid.*, at 30.

1 we look to all authorized ROEs rather than the simple average, there has been no
2 downward trend.

3 ~~Q. WHAT IS YOUR RESPONSE TO MS. LACONTE'S ARGUMENT YOUR~~
4 ~~"IMPLIED RISK PREMIUM" IS OVER STATED?~~

5 ~~A. First, Ms. LaConte appears to be referring to the Equity Risk Premium component~~
6 ~~of the Bond Yield Plus Risk Premium analysis. Her position is that because the~~
7 ~~long term historical average Equity Risk Premium is below the Equity Risk~~
8 ~~Premium implied by the regression equation, the "implied" Equity Risk Premium~~
9 ~~must be "overstated".~~

10 ~~As discussed in my Direct Testimony, the regression coefficients~~
11 ~~specifically recognize that as interest rates decrease, the Equity Risk Premium~~
12 ~~increases.¹⁵³ Although the average Equity Risk Premium is provided in Exhibit~~
13 ~~RBH 6 of my Direct Testimony, it is never used as a basis for my ROE~~
14 ~~recommendation. Rather, my Equity Risk Premium estimate is based on a~~
15 ~~regression analysis, which continues to show a statistically significant, inverse~~
16 ~~relationship between the Equity Risk Premium and the Treasury bond yield. To~~
17 ~~apply an average Equity Risk Premium to the current and projected Treasury bond~~
18 ~~yield, as Ms. LaConte suggests, would ignore that inverse relationship and~~
19 ~~significantly understate the Cost of Equity.~~

¹⁵³ Direct Testimony of Robert B. Hevert, at 39-41.

1 If we were to apply Ms. LaConte's long-term historical average Equity Risk
 2 Premium of 4.65 percent, we also would need to apply the average historical 30-
 3 year Treasury bond yield over the same time period, 7.95 percent.¹⁵⁴ Because the
 4 4.30-percent projected 30-year Treasury bond yields is below the average historical
 5 Treasury bond yield of 7.95 percent, it makes sense that the implied Equity Risk
 6 Premium would be higher than the average. I therefore disagree the "implied risk
 7 premium" is over-stated, believe the model is properly specified.

8 ~~Q. AT PAGE 37 OF HER TESTIMONY MS. LACONTE NOTES THAT THE~~
 9 ~~RISK PREMIUM IS ASSOCIATED WITH THE RISKINESS OF THE~~
 10 ~~SECURITY. DO YOU HAVE ANY THOUGHTS REGARDING MS.~~
 11 ~~LACONTE'S POINT IN THAT REGARD?~~

12 ~~A. Yes, I do. Ms. LaConte speaks to the risk premium associated with a "riskier~~
 13 ~~security."¹⁵⁵ in the context of the Bond Yield Plus Risk Premium method. Within~~
 14 ~~the methods used to estimate the Cost of Equity, the Beta coefficient, as applied in~~
 15 ~~the CAPM, often is used as the measure of relative risk. An important issue,~~
 16 ~~however, is whether the CAPM fully measures the Cost of Equity for comparatively~~
 17 ~~low Beta coefficient companies, such as utilities. That is, the issue of relative risk~~
 18 ~~brings up the question of whether the CAPM tends to under estimate the Cost of~~

¹⁵⁴ Ms. LaConte mis-states the average risk premium from January 1990 to October 2018 is 4.65 percent. In actuality, the 4.65 percent long-term average is over the period from January 1980 to October 2018. The average (lagged) 30-year Treasury Bond yield over the January 1980 to October 2018 time period is 7.95 percent. See Exhibit RBH 6.

¹⁵⁵ Direct Testimony of Billie S. LaConte, at 37.

Equity for utilities. If that is the case, Ms. LaConte's view regarding the equity risk premium is further called into question. As discussed below, we can address that issue by reference to the Empirical Capital Asset Pricing Model.

~~Q. PLEASE BRIEFLY DESCRIBE THE EMPIRICAL CAPITAL ASSET PRICING MODEL ("ECAPM", OR "EMPIRICAL CAPM").~~

~~A. The Empirical CAPM adjusts for the CAPM's tendency to under estimate returns for companies that (like utilities) have Beta coefficients less than the market mean of 1.00, and over estimate returns for relatively high Beta coefficient stocks.¹⁵⁶~~

~~— Fama and French succinctly describe the issue addressed by the ECAPM when they note "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low."¹⁵⁷ Similarly, Dr. Morin observes that "[w]ith few exceptions, the empirical studies agree that ... low beta securities earn returns somewhat higher than the CAPM would predict, and high beta securities earn less than predicted."¹⁵⁸ As Dr. Morin also explains, the ECAPM "makes use" of those findings, and estimates the Cost of Equity based on the following equation:¹⁵⁹~~

$$k_e = R_f + \alpha + \beta(MRP - \alpha) \quad [6]$$

¹⁵⁶ Roger A. Morin, New Regulatory Finance (Public Utility Reports, Inc., 2006), at 175-176.

— Eugene F. Fama and Kenneth R. French, The Capital Asset Pricing Model: Theory and Evidence, Journal of Economic Perspectives, Vol. 18, No. 3, Summer 2004, at 33.

¹⁵⁸ Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 175.

¹⁵⁹ *Ibid.*, at 189.

1 ~~where α , or “alpha,” is an adjustment to the risk/return line, and “MRP” is the~~
 2 ~~Market Risk Premium (defined above). Summarizing empirical evidence regarding~~
 3 ~~the range of estimates for alpha, Dr. Morin explains that the model “reduces to the~~
 4 ~~following more pragmatic form”¹⁶⁰:~~

$$k_s = R_f + 0.25(R_m - R_f) + 0.75\beta(R_m - R_f) \quad [7]$$

6 ~~where:~~

7 ~~k_s = the investor required ROE;~~

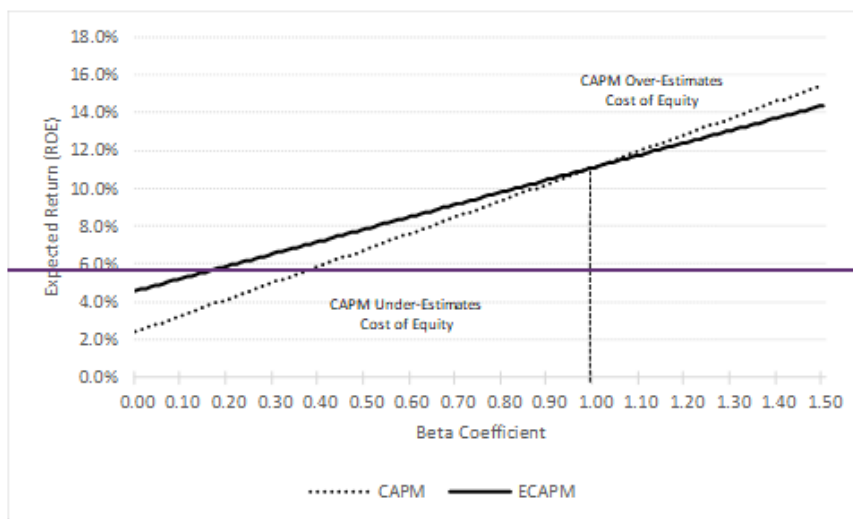
8 ~~R_f = the risk free rate of return;~~

9 ~~β = Adjusted Beta coefficient of an individual security; and~~

10 ~~R_m = the required return on the market.~~

11 ~~The relationship between expected returns from the CAPM and ECAPM can be~~
 12 ~~seen in Chart 8, below. That chart, which reflects the current risk free rate and~~
 13 ~~Market Risk Premium, illustrates the extent to which the CAPM understates the~~
 14 ~~expected return relative to the ECAPM when Beta coefficients are less than 1.00.~~

¹⁶⁰ ~~*Ibid.*, at 190. Equations [6] and [7] tend to produce similar results when “alpha” is in the range of 1.00 percent to 2.00 percent. See Rebuttal Exhibit No. RBH 16. As Dr. Morin explains, alpha coefficients in that range are highly consistent with those identified in prior published research.~~

Chart 8: CAPM and ECAPM Expected Returns¹⁶¹

The ECAPM is an adjustment to the risk/return line which, as noted in Chart 8 above, is flatter than the CAPM assumes. That adjustment is required even with the use of adjusted Beta coefficients, such as those provide by Value Line. As Dr. Morin observes:

Fundamentally, the ECAPM is not an adjustment, increase or decrease, in beta. This is obvious from the fact that the expected return on high beta securities is actually lower than that produced by the CAPM estimate. The ECAPM is a formal recognition that the observed risk return tradeoff is flatter than predicted by the CAPM based on myriad empirical evidence. The ECAPM and the use of adjusted betas comprised two separate features of asset

¹⁶¹ See Rebuttal Exhibit No. RBH-16. The finding that the ECAPM is not an adjustment to the Beta coefficient is clear in Equation [6] ($k_s = R_f + \alpha + \beta(MRP - \alpha)$), in which the alpha coefficient increases the intercept (the expected return when the Beta coefficient equals zero), and reduces the Market Risk Premium.

pricing...Both adjustments are necessary.¹⁶²

~~Q. HAVE YOU UNDERTAKEN ANY INDEPENDENT ANALYSES TO DETERMINE WHETHER THERE IS A RELATIONSHIP BETWEEN BETA COEFFICIENTS AND EXCESS RETURNS PRODUCED BY THE CAPM AND ECAPM?~~

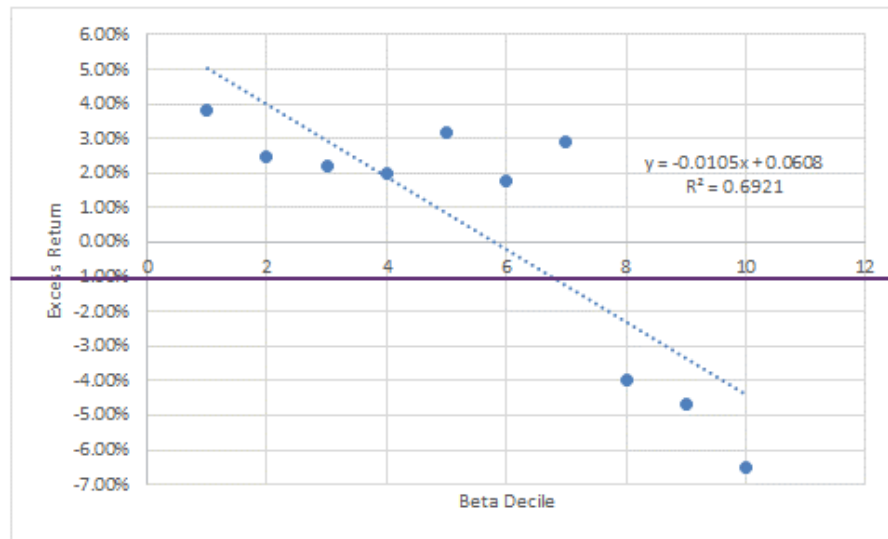
~~A. Yes. I performed an analysis of excess returns¹⁶³ produced by the CAPM, by Beta coefficient decile, over the ten years ended 2018. The analysis compared the observed returns of the companies in the S&P 500 Index to expected returns based on the CAPM. Observed returns were calculated as the total return for each company from the first day of a given year to the end of that year. The expected return for each company was calculated using the CAPM as applied to the following annual data: (1) a risk-free rate equal to the average 30-year Treasury yield for that year; (2) an adjusted Beta coefficient as of the beginning of the year using Bloomberg's standard calculation methodology (two years of weekly return data, using the S&P 500 Index as the comparison benchmark); and (3) a market return equal to the S&P 500 Index total return for that year. The companies were grouped into deciles each year based on their Beta coefficients, and the median excess return (or return deficiency) was calculated for each decile group. Excess returns were~~

¹⁶² Roger A. Morin, *New Regulatory Finance*, Public Utility Reports, Inc., 2006, at 191 [*emphasis added*].

¹⁶³ As noted below, "excess returns" is defined as the observed return less the return implied by the CAPM.

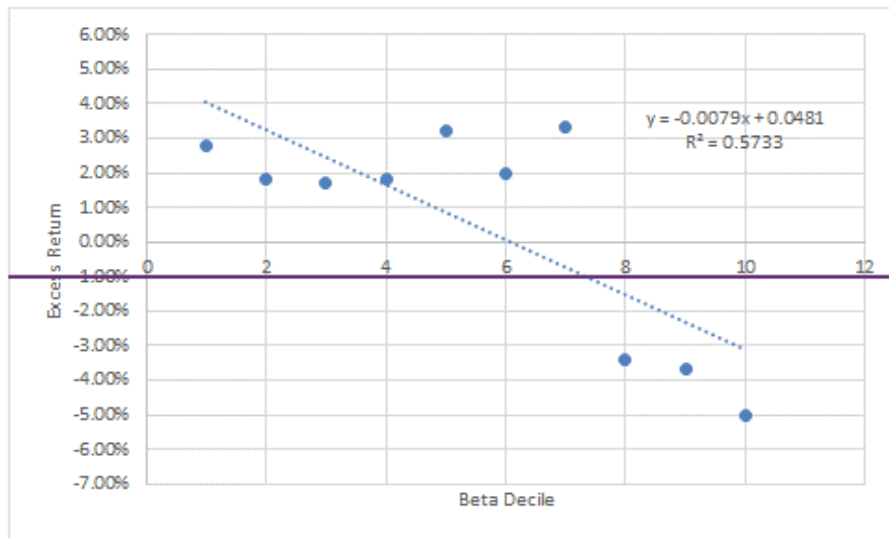
calculated as the observed return less the return implied by the CAPM. Chart 9 (below) summarizes those results.

Chart 9: Excess Returns Under CAPM¹⁶⁴



As Chart 9 demonstrates, the relationship between Excess Return and Beta coefficient deciles is strong, with deciles explaining more than 69.00 percent of the Excess Return. Using the same data and calculating the Excess Return by reference to the ECAPM (as defined by Equation [7], above), produces the same downward sloping relationship, but not to the same degree (see Chart 10, below).

¹⁶⁴ Source: Bloomberg Professional Services.

Chart 10: Excess Returns Under the ECAPM¹⁶⁵

There are two principal observations to be drawn from the data presented in Charts 9 and 10. First, under the ECAPM the slope coefficient falls somewhat (relative to the CAPM), suggesting a flatter relationship between Beta coefficient deciles and the excess return. The flatter slope moves closer to the point at which the excess return is zero across all deciles. Second, the excess return values are somewhat moderated under the ECAPM; the high excess returns are lower than under the CAPM, and the low excess returns are higher. Again, that finding suggests the ECAPM mitigates, but does not solve the issue of the CAPM underestimating returns for low Beta coefficient firms.

¹⁶⁵ Source: Bloomberg Professional Services.

~~In summary, Charts 9 and 10 support the position that the CAPM tends to underestimate returns for low Beta coefficient firms, and the ECAPM moderates but does not eliminate that effect. Because the ECAPM addresses Ms. LaConte's view that the equity risk premium assumed in my analyses is too high, I believe it is a reasonable method, and have included results based on the ECAPM in my updated analyses.¹⁶⁶~~

V-IV. RESPONSE TO THE DIRECT TESTIMONY OF MR. CHRISS

Q. PLEASE SUMMARIZE MR. CHRISS'S TESTIMONY REGARDING THE COMPANY'S ROE.

A. Mr. Chriss opposes the Company's proposed ROE based on his review of authorized ROEs since 2016 and comparisons to the Company's and Duke Energy Progress' current authorized ROE in South Carolina and North Carolina.¹⁶⁷ He recommends the Commission "closely examine" the Company's proposed ROE "in light of (1) the customer impact of the resulting revenue requirement increase; (2) the use of risk-reducing rate-making structures such as the Company's proposed forward-looking [Grid Improvement Program ("GIP")] rider; and (3) recent rate case ROEs approved by commissions nationwide."¹⁶⁸ ~~Like Ms. LaConte, Mr.~~

¹⁶⁶ ~~See Rebuttal Exhibit No. RBH 5.~~

¹⁶⁷ See Direct Testimony of Steve W. Chriss, at 7-8, 10-13.

¹⁶⁸ *Ibid.*, at 13. Clarification added.

VII. SUMMARY OF UPDATED RESULTS AND CONCLUSION

Q. PLEASE SUMMARIZE YOUR UPDATED ROE ANALYSES AND RESULTS.

A. I have updated many of the analyses contained in my Direct Testimony with current data as of February 15, 2019, including the Constant Growth and Multi-Stage Discounted Cash Flow analyses, the Capital Asset Pricing Model, the Empirical CAPM, and the Bond Yield Plus Risk Premium approach. I also have updated my proxy group based on recent data to include Evergy, Inc.¹⁸⁴ My updated analytical results are provided in Table 7 below.

¹⁸⁴ As enough time has passed since the merger between Great Plains Energy, Inc. and Westar Energy, Inc. to form Evergy, Inc., I have included Evergy, Inc. in my proxy group.